

WHAT IS CLAIMED IS:

1. A wafer heat-treatment system for processing a wafer by a high-temperature heat-treatment process and cooling the heat-treated wafer, said wafer heat-treatment system comprising:

walls surrounding a closed space placing the wafer and having a hollow sealing a gas in said walls; and

a pressure-regulating unit connecting to said hollow for regulating pressure in said hollow.

2. The wafer heat-treatment system according to claim 1, wherein said pressure regulating unit reduces the pressure in said hollow before processing the wafer by the high-temperature heat-treatment process.

3. The wafer heat-treatment system according to claim 2, wherein said pressure regulating unit raises the pressure in said hollow in a short time after processing the wafer by the high-temperature heat-treatment process.

4. The wafer heat-treatment system according to claim 3, wherein the gas sealed in said hollow is a helium gas or a nitrogen gas or oxygen gas.

5. The wafer heat-treatment system according to claim 2, wherein the gas sealed in said hollow is a helium gas or a nitrogen gas or oxygen gas.

6. The wafer heat-treatment system according to claim 1, wherein said pressure regulating unit raises the pressure in said hollow in a short time after processing

the wafer by the high-temperature heat-treatment process.

7. The wafer heat-treatment system according to claim 6, wherein the gas sealed in said hollow is a helium
5 gas or a nitrogen gas or oxygen gas.

8. The wafer heat-treatment system according to claim 1, wherein the gas sealed in said hollow is a helium
10 gas or a nitrogen gas or oxygen gas.

9. A wafer heat-treatment method comprising the steps of:

processing a wafer, which is in a closed space surrounded by walls each having a hollow, by a high-
15 temperature heat-treatment process;

cooling the heat-treated wafer, which is in said closed space, after the high-temperature heat-treatment process; and

regulating pressure in said hollows of said walls.
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10. The wafer heat-treatment method according to claim 9, wherein the step of regulating pressure in said hollows comprises the step of reducing the pressure in said hollows before processing the wafer by the high-
25 temperature heat-treatment process.

11. The wafer heat-treatment method according to claim 10, wherein the step of regulating pressure in said hollows comprises the step of increasing the pressure in
30 said hollows in a short time after processing the wafer by the high-temperature heat-treatment process.

12. The wafer heat-treatment method according to claim 11, wherein a helium gas or a nitrogen gas or oxygen gas is sealed in said hollows.

5 13. The wafer heat-treatment method according to claim 10, wherein a helium gas or a nitrogen gas or oxygen gas is sealed in said hollows.

10 14. The wafer heat-treatment method according to claim 9, wherein the step of regulating pressure in said hollows comprises the step of increasing the pressure in said hollows in a short time after processing the wafer by the high-temperature heat-treatment process.

15 15. The wafer heat-treatment method according to claim 14, wherein a helium gas or a nitrogen gas or oxygen gas is sealed in said hollows.

20 16. The wafer heat-treatment method according to claim 9, wherein a helium gas or a nitrogen gas or oxygen gas is sealed in said hollows.